Profitability as basic criterion of efficient management in context of crisis development

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Abstract

The paper focuses on use of the basic indicator of profitability assessment in the context of alternative costs. The aim of the paper is to assess the efficiency of managing the financial means of shareholders in companies that paid dividends at least five times within the last eight years by means of the basic ratio of return on equity in cooperation with statistic functions and its comparison with values of costs of equity and risk-free interest rate. The emphasis is also put on aspects of development of the economic cycle and the confidence indicators.

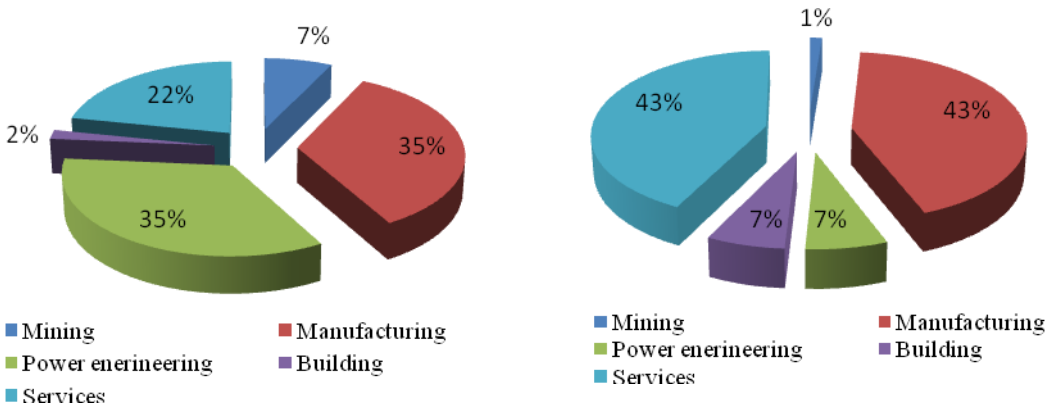
Key words: profitability, return on equity, cost of equity, risk-free interest rate, economic cycle, confidence indicator
JEL codes: G01, G32

1. Introduction

The aim of the paper is to assess the efficiency of managing the financial means of shareholders in 55 companies by means of the basic ratio of return on equity in cooperation with statistic functions and its comparison with values of costs of equity and risk-free interest rate. The hypothesis that is interpreted in the paper is built on the statement that the most stable companies from the view of profitability in confrontation with various indicators are power engineering companies, and the least stable companies being those in the manufacturing industry. The emphasis is also put on aspects of development of the economic cycle and the confidence indicator. From the methodology point of view, methods of financial analysis and comparison were used. The comparison was performed on the level of the branch of business, in the sample of companies as well as on the level of selected macroeconomic indicators.

The analysis in the paper deals with 55 companies only. All the analysed companies have more than 100 employees. The information comes from the annual reports of individual companies, in which there was performed the analysis of return on equity, costs of equity and risk-free interest rate. Division of the companies according to the branch classification of economic activities is stated in figure 1. The figure 1 also states the division in the monitored analyses of the Ministry of Industry and Trade of the Czech Republic.

Figure 1 Shares of companies in the sample of companies in individual branches (left) and shares of companies in the non-financial companies (right)



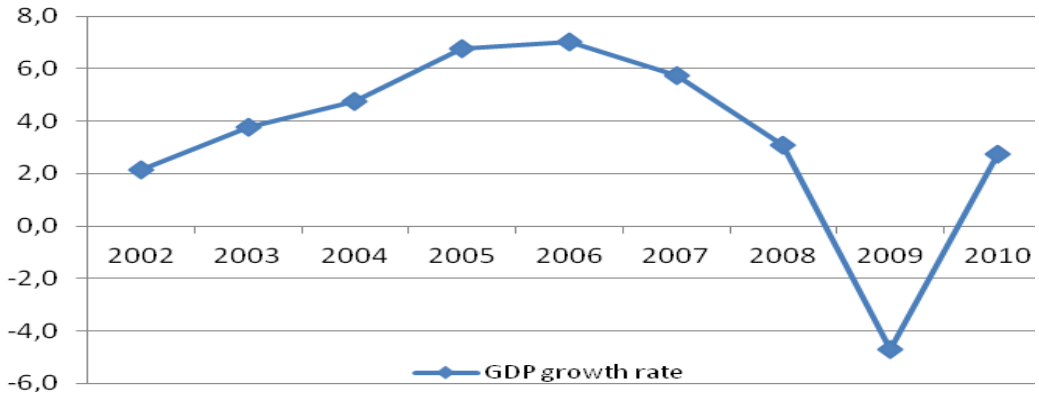
Source: Ministry of Industry and Trade and own calculations

From the Figure it is clear that from the view of NACE the most companies in the sample belong to the category of manufacturing industry and power engineering with the same number of companies. From the view of shares of individual companies in non-financial companies in the Czech market that are registered with the Ministry of Industry and Trade of the Czech Republic for purposes of financial analyses, the division is slightly different. Almost identical share of companies is reported for the manufacturing industry and services. Similarly as in the sample, the minority share is reported for companies in mining and building industries. The most significant difference is reported for companies in power engineering. However, the sample has been monitored for a decade, in which the number of companies also has also varied, as particularly in the gas and electricity distribution there have been many changes that have mainly brought company mergers.

In order to objectively monitor the development of efficiency in individual branches, the analysis has also included the Czech Statistical Office results monitoring the development of the economic cycle as well as the confidence indicators[1]. The confidence indicators (conjuctural indicators) were processed from the view of a businessman. The conjuctural indicators are called the advance indicators as they have, or they should have, the ability to foretell the future development of economy – to give information on the oncoming turning point and vice versa. (Jeřábková, 2011) The development of the economic cycle is reported in the following Figure based on the rate of growth of gross domestic product and it comes from the data published by the Czech Statistical Office.

[1] Conjunctural indicators (or confidence indicators - CI) are determined by a survey of several groups of economic subjects. In gross division it is the consumer and the businessman. In the survey, both groups are questioned and they express their assessment of the current economic development as well as expectations of the future development generally and in their segment. Consumers respond to questions concerning their expectations of future general economic situation, their own financial situation and total unemployment (sign + if decrease in unemployment is expected, sign – if increase in unemployment is expected). The last group of questions concerns the intention to save – the expected savings of the consumer in the oncoming twelve months. (Jeřábková, 2011)

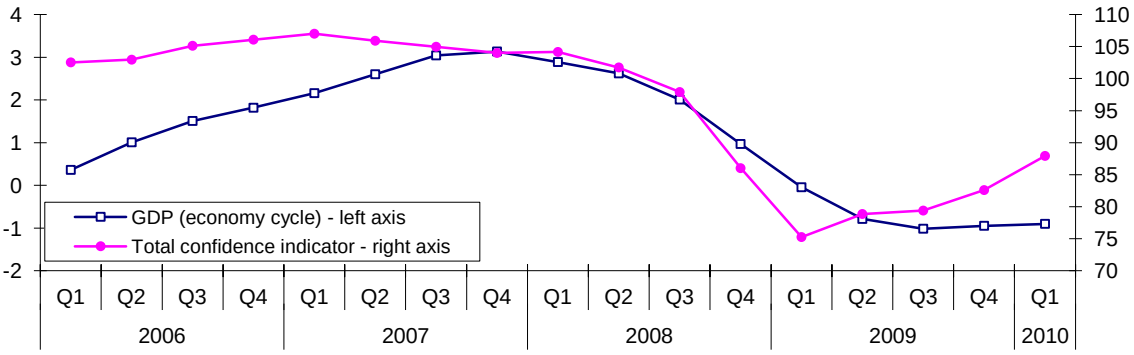
Figure 2 Annual rate of gross domestic product growth in the Czech Republic 2002-2010 (in %)



Source: Czech Statistical Office

In Figure 2 it is obvious that the rate of growth in the Czech Republic corresponds to the global development of economy, as globally, 2007-2008 were full of signals of the oncoming crisis. Moreover, the Czech Republic reported a relatively high rate of gross domestic product growth until 2006, so it was evident that such situation was not sustainable in the context of the world´s development, as the global economies ultimately affect the individual economies. In this context it is interesting to monitor the future expectations which are performed by the Czech Statistical Office on the basis of the above-mentioned confidence indicators. From Figure 3 you may see that the confidence indicator has more optimistic development compared to the reached leved of GDP based on the analyses of the last two years. It is apparent that the index already showed expectations of the end of the economic crises for the beginning of 2010, although the values are still below the basic values, which were in 2005. However, the development of these year´s indicators suggests rather pesimism and thus it is in better accord with the development of the economic cycle.[2]

Figure 3 Total confidence indicator in economy (2005=100) and cyclic factor of GDP (in% trend) in individual quarters from 2006 to 2010



[2] Conjunctural survey in companies. Czech Statistical Office, October 2011 [on-line] http://notes2.czso.cz/csu/2011edicniplan.nsf/p/1201-11

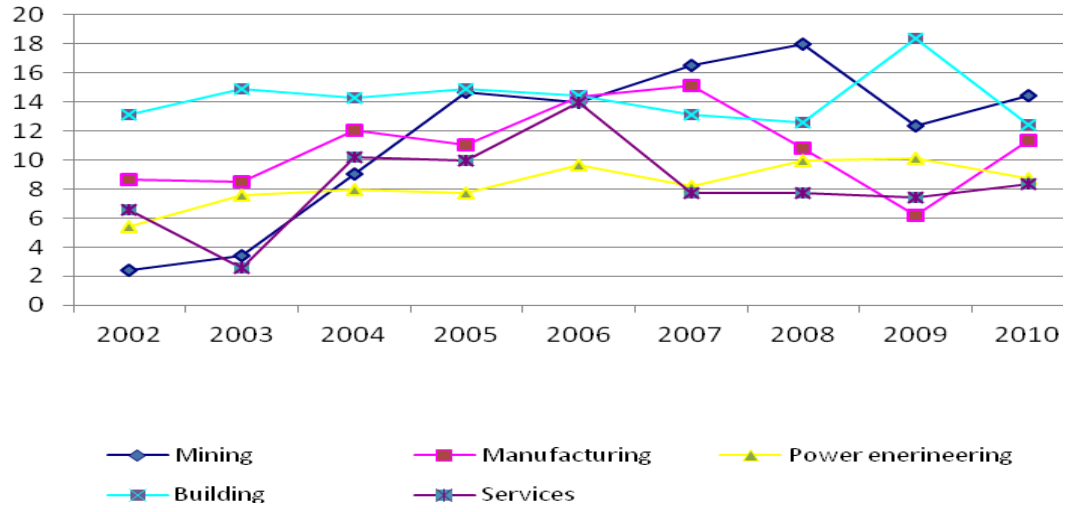
Source: Jeřábková, Z. Konjunkturální indikátory a jejich vazba na hospodářský vývoj v době zpomalení české ekonomiky. Prague: CZSO, 2011.

2. Assessment of profitability as basic criterion of effective economy

Profitability is a measure of ability of a company to create new sources, to reach profit by using the invested capital. It is actually a form of expressing the rate of profit which is the basic criterion of capital allocation. Profitability indexes are such indexes where the numerator includes an item corresponding to the economic result and the denominator includes a type. It may be generally stated that the profitability indexes are to assess the total efficiency of the given activity. These indexes will be of greatest interest for shareholders and possible investors, but they are of indisputable significance to other groups, too. [3]

From the area of profitability, the most interesting profitability index in relation to the capital market is the index of return on equity, which is mainly in focus for shareholders, associates as well as possible investors. The focus is understandable as it expresses how much of net profit will be for one crown invested by the shareholders. From the construction point of view, net profit and equity enter the ratio index on the level of the amount of all the items of equity, thus not only basic capital but also other items from the accounting point of view.

Figure 4 Development of return on equity in individual branches according to branch classification of economic activities from 2002-2010



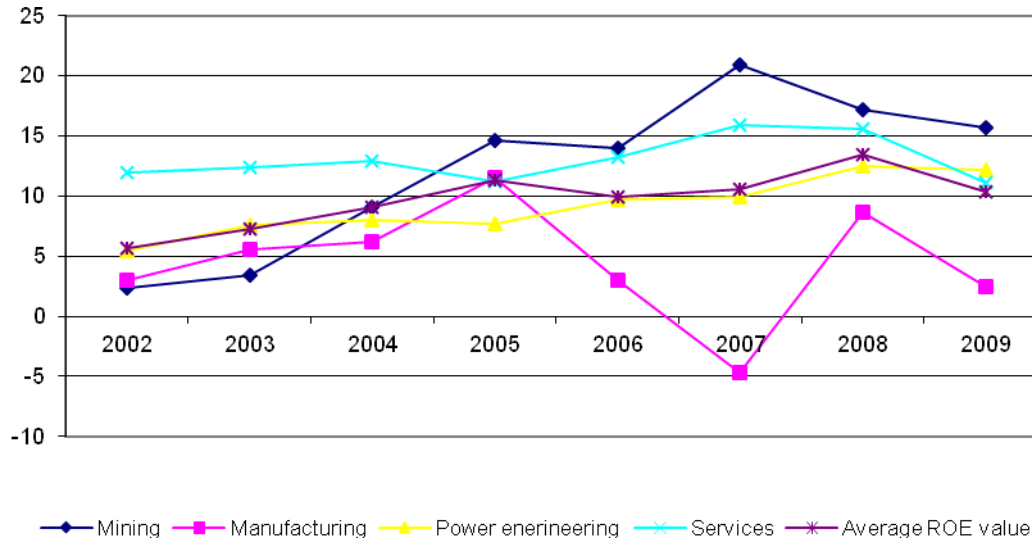
Source: Financial analyses of the Ministry of Industry and Trade of the Czech Republic

If we focus on the development of return on equity in the Czech Republic in individual business fields according to analyses of the Ministry of Industry and Trade of the Czech Republic, it is

[3] RŮČKOVÁ, P.: *Finanční analýza, metody, ukazatele a využití v praxi.* Praha: Grada Publishing 2009. ISBN 978-80-247-1386-1

apparent that return on equity has an increasing tendency in all the monitored business fields only till 2006. The year of 2006 seems to be the most balanced from the view of return on equity, however, we should realize that representation of companies in individual fields is various, with the manufacturing industry having the greatest representation—there are over 2,000 companies with a very heterogeneous return in its average value. Mining includes 32 companies with over 100 employees, power engineering covers 291 companies and services include almost 600 companies. However, this is not true in the oncoming years when there are fewer companies in individual fields (see Figure 1) and the efficiency indicators differ, too. It may be also stated that the development of return on equity by 2006 naturally corresponds to the economic growth in the Czech Republic, as the Czech economy reported economic growth rate as 7% in 2006[4]. Since 2007 the situation has been different in individual branches. The economic growth mainly copies the most represented business field—manufacturing industry, as well as mining. The other fields report different development tendencies. Whereas power engineering keeps its development dynamics regardless the economic cycle phase, services show signals of beginning of the economic depression as early as in 2006. In this view, a specific category is building which reports the highest efficiency values in the year of the greatest economic slump of GDP, while the efficiency in this field decreases when the GDP gets an increasing tendency. If we consider building as a field that shows the future situation in the total economy, then on the basis of the economic results we would have to state that from this point of view, the crisis is not over yet. It is apparent from the Figure that mainly in the last two years it reports a very contrary tendency in comparison with manufacturing. If we assess the sample, then from Figure 5 it is obvious that the situation is slightly different. The Figure excludes building which has only two companies represented in the sample, so the data would not be sufficiently conclusive.

Figure 5 Development of return on equity in the monitored sample of companies



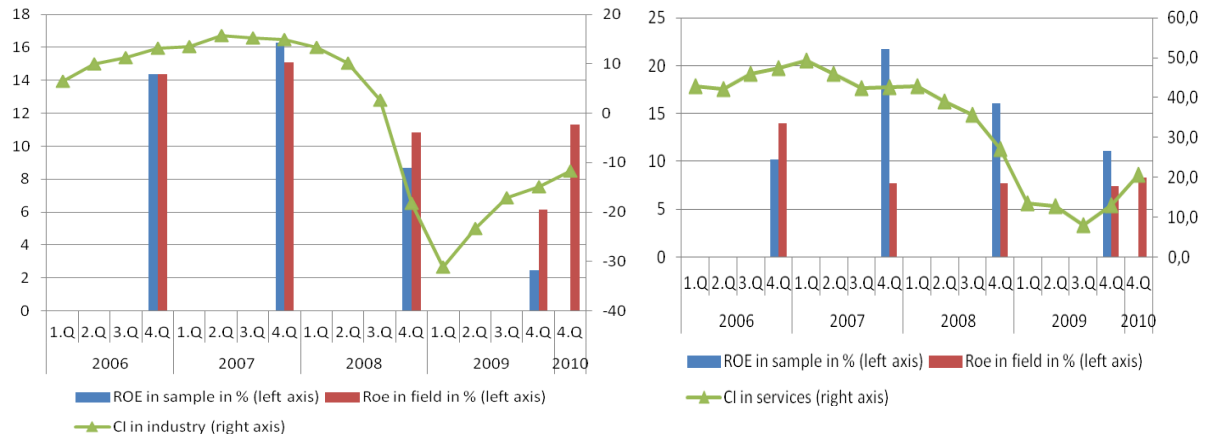
Source: financial reports of companies and own calculations

The Figure shows that apart from power engineering all fields of the analysed sample of companies have reported a decreasing tendency since 2007 (though slight only for services), which

[4] Source: Czech Statistical Office

means a deviation from the total assessment. Power engineering reports an increasing tendency for a year longer and the decrease in the last monitored year is just slight. Manufacturing reports greatest deviations but this may have been assumed having considered the variety of companies from the view of business activity focus. Values of 2010 have not been processed in the sample yet, as most of the companies have not published their economic results by the middle of 2001.[5] If we compare the reached values of return in the sample of manufacturing companies and in the whole manufacturing industry with values of the confidence indicator, then we get the situation described in Figure 6.

Figure 6 Return on equity in context of confidence indicator in manufacturing (left Figure) and in services (right Figure)



Source: Czech Statistical Office, Ministry of Industry and Trade, annual reports of companies, own calculations

It is apparent that the curve of all three monitored indicators shows the same tendency. Beyond the analysis, values of the end of 2010 were also processed and it is possible to see that not only the tendency of increasing confidence in economy still continues, but also the efficiency of the sector increases. The shape of confidence indicator in services is a bit different and the development of efficiency in the whole sector of services and in the sample of companies is completely different. The curve of confidence in economic growth had a more gradual tendency and the decrease came as early as in 2006, and the restoration of trust has the same character. From the view of return, it is interesting that the whole sector of services relatively accurately copies the confidence indicator, whereas the sample reaches noticeably higher values, and in steady decrease since 2007, which is not reported in the whole sector of services in 2009 and 2010.

3. Costs of equity and risk-free interest rate in context with ROE

[5] RŮČKOVÁ, P. The Role of capital structure and financial ratios in firms' management. The Proceedings of the Third International Symposium on Business Administration *In The Competition Power of the European Union after the Enlargement.* Gelibolu: Canakkale Onsekiz Mart University, 2004, s. 773 – 778. ISBN 9758100394

Nowadays there is a strong tendency to subsitute the assessment of profitability using ratio indicators by means of economic value added. The theory of economic value added comes from the fact that a company has maximizing the economic profit as one of the main objectives. Thus it is not maximizing the accounting profit which is usually reported in the balance as the difference between the revenues and expenses. The difference between the two terms is mainly in the item of expenses that also include alternative costs (lost opportunity costs) in the economic profit, which means that the classic expression of profit mainly ignores the costs of equity, as costs of foreign capital (interests paid) are included in the income statement.

From the view of quantification, cost of equity means a problem. Its estimate is not easy. Companies do not promise the rate of appreciation of the invested means to usual shareholders in advance. The most usual expression of the cost of equity is based on the risk-free interest rate (r_f - rate of return risk-free security) which is increased by the additional charge for risk coming from the investment into the security. The classic expression of economic value added includes an extra parameter which may only be compared in a timeline, as the expression in monetary units puts every company into a specific and unrepeatable position.

Figure 7 Development of risk-free interest rate in the Czech Republic 2002-2010

Source: ČNB (Czech National Bank) and Financial analysis of industry and trade of the Ministry of Industry and Trade of the Czech Republic

In case of risk assessment we usually use the development of profitability of stock in the preceding years and compare it with profitability of risk-free state bonds. Opinions on assessment of cost of equity significantly differ and economists often dispute them when assessing the economic value added.

From the view of a shareholder, the most interesting item is probably return on equity. If the value of return on equity is continuously lower than profitability of securities guaranteed by the state, then the company is in fact sentenced to come to an end, as the investors will not invest their means into such an investment. That is to say that generally this indicator should be higher than the interest rate of risk-free securities. What relates to return on equity is also comparison with cost of equity (r_e)[6] which we assess for individual companies, but it is possible to make the comparison with cost of

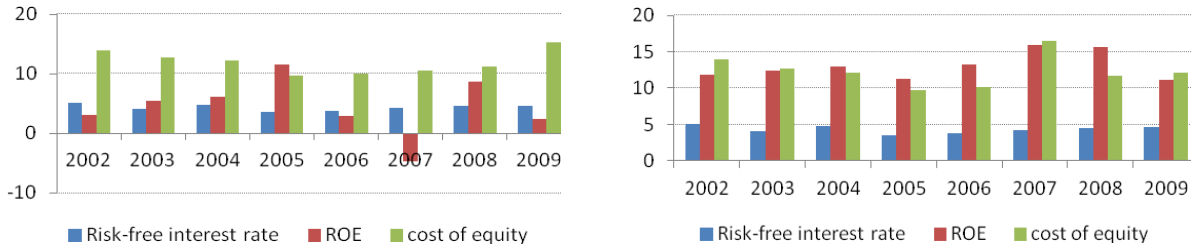
[6] Level of risk represents an alternative cost of equity (r_e). It is profitability (valorization) of equity that could be achieved in case of an investment into an alternative (meaning of the same risk) investment opportunity.

equity for the given branch according to NACE. Based on comparison of ROE and the two quantities, we may divide groups into 4 basic categories[7]:

- Category I represents companies creating an economic value added and values of their return on equity are higher than values of cost of equity;
- Category II represents companies whose ROE is not higher than cost of equity but it is higher than profitability of risk-free assets;
- Category III includes companies whose ROE is lower than profitability of risk-free assets but they still report a positive ROE;
- Category IV represents companies whose profitability is negative, or they have a negative value of equity.

Placing a company into one of the above-stated categories is a signal of the level of economy of the company. It may help us to decide about the quality of the company in external analyses. However, the problem is that the item of cost of equity is a very controversial item which is also rather difficult to find. For this analysis, which balances on the edge of comparison or assessment of business fields, values presented by the Ministry of Industry and Trade of the Czech Republic have been used and are a part of Figure 4.

Figure 8 Comparison of average values of ROE, risk-free interest rate and cost of equity in manufacturing (left Figure) and services (right Figure) in the analysed sample of companies

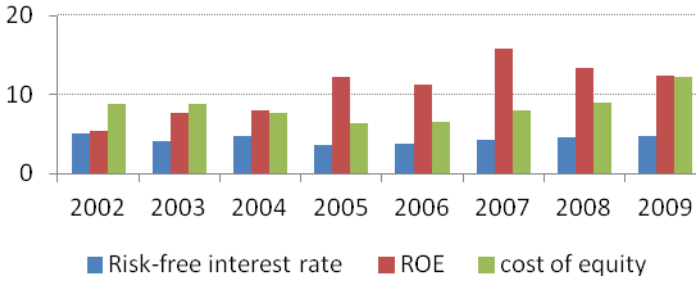


Source: annual reports of companies, Financial Analysis of Industry and Building in individual years of the Ministry of Industry and Trade of the Czech Republic

[7] Methodology of the Ministry of Industry and Trade of the Czech Republic in the Financial Analyses of Industry and Building.

From the view of average values of return on equity (figure 8), this business field does not seem attractive, as—apart from one period—it does not reach values of cost of equity, years of 2006 and 2007 do not even reach the level of risk-free interest rate, which would not be convenient from the view of shareholders. The same situation in the analysed sample happened in 2009 when only 6 out of 19 companies reported the value higher than the risk-free interest rate. In services the figures are rather more favourable. Even in the period of the crisis development, the average values of ROE report higher values than the risk-free interest rate in all the analyses years. However, the average value is considerably misleading, because at a closer look you may find that only five out of eleven analysed companies reached this value in 2009. The problem of distortion results from the significant difference between the reported values of ROE of individual companies. Similarly to services, companies in power engineering also report positive values, which is shown in Figure 9. But in this business field there is no distortion of the values, as out of the 16 analysed companies only four of them did not report higher values of ROE than the risk-free interest rate in the last year. However, in confrontation these companies reported the most stable values considering the development of the economic cycle.

Figure 9 Comparison of average values of ROE, risk-free interest rate and cost of equity of power engineering companies



Source: annual reports of companies, Financial Analysis of Industry and Building in individual years of the Ministry of Industry and Trade of the Czech Republic

4. Conclusion

The aim of the paper was to assess the efficiency of managing the financial means of shareholders in companies in the Czech market by means of the basic ratio indicator of return on equity in cooperation with statistical functions and its comparison with values of cost of equity and risk-free interest rate. The formulated hypothesis at the beginning of the paper that the most stable companies from the view of profitability in confrontation with various indicators are the power engineering companies and the least stable are those in manufacturing, has been verified. When confronting the individual business fields with the development of the economic cycle and confidence indexes from 2002 to 2010, it has been found that it is mainly the manufacturing industry that has been

developing in accordance with the economic cycle as well as with the expectations of business units. Building has confirmed a greater sensitivity to external aspects and from the view of the above-mentioned parameters it is faster by one period. The power engineering field has reported the least sensitivity to the development of the economic cycle in the Czech Republic as well as in the analysed sample, as it reported growth till 2009 and a slight decrease was reported as late as in 2010 (according to the data of the Ministry of Industry and Trade of the Czech Republic).

The other criterion from the view of assessment was the comparison of the reached values of return on equity with values of average costs of equity and risk-free interest rate. From the view of an investor, the most profitable here seems to be the power engineering again, as in the long term only four out of the 16 analysed companies have reached values lower than the risk-free interest rate, and none of them has reported a negative value of the economic results. From the view of average values, the field of services seemed to be attractive for investors at first sight, but after a closer analysis there was a significant difference between the individual companies. The least interesting for investors was the manufacturing industry that reported the least stable development of return on equity and in confrontation with the risk-free interest rate—which was considered as the required minimun—it failed.

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